Site Engineering Report

Schorr Residence
49 Sunswyck Road
Darien, Connecticut

Prepared for:

Craig & Sueann Schorr
49 Sunswyck Road
Darien, CT 06820

Date Prepared:

February, 2021

Prepared by:

DiVesta Civil Engineering, LLC

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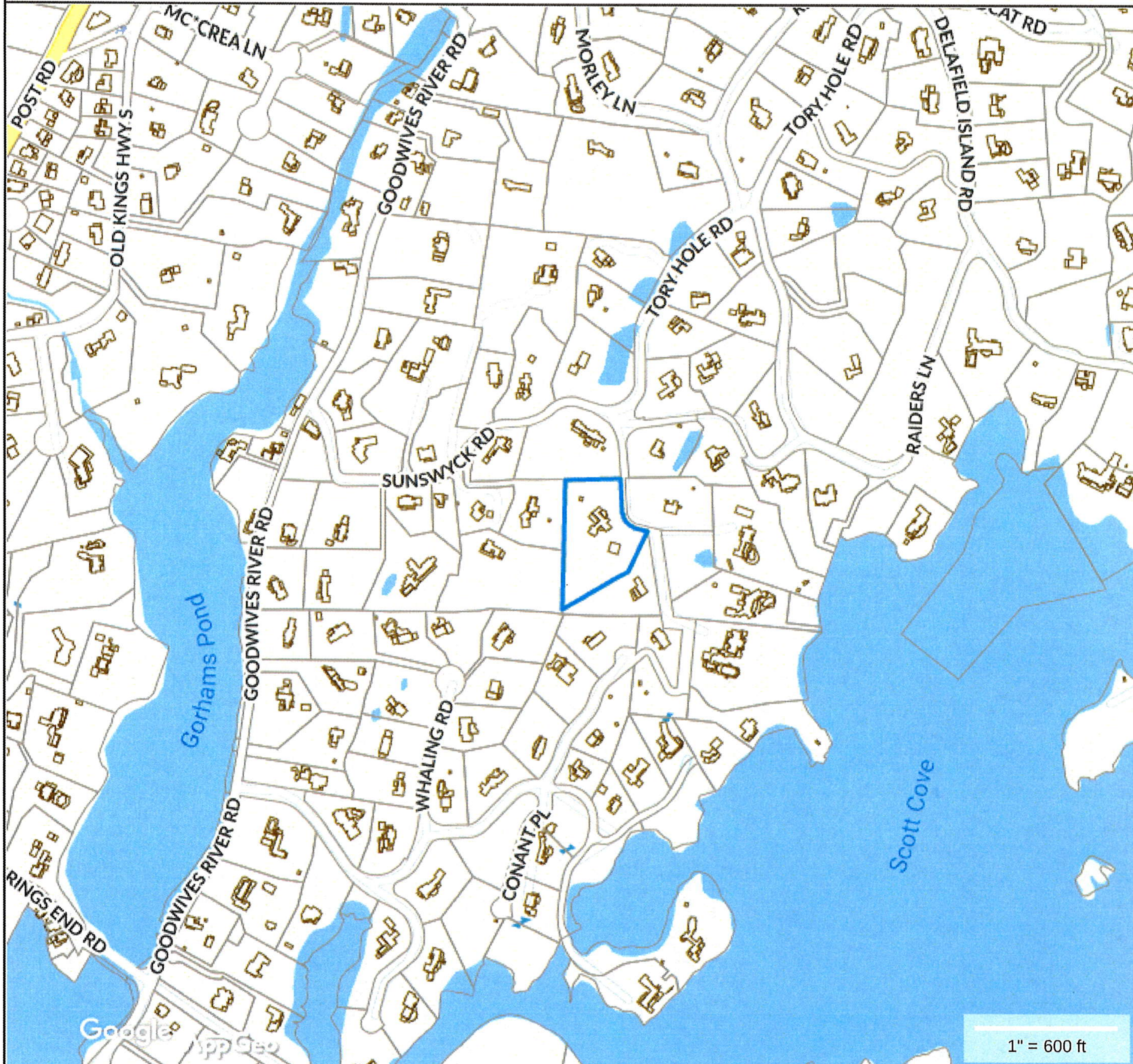
49 Sunswyck Road



Property Information

Property ID 08618
Location 49 SUNSWYCK ROAD
Owner ORESMAN STEPHEN B &

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Darien, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 8/1/2019
Data updated 8/1/2019

Introduction

This report has been prepared to present technical information in support of the application to raze the existing dwelling and construct a new residence in the same general location as the existing dwelling. The existing detached garage and driveway will remain. Other work associated with this project will be the installation of a new septic system and site regrading associated with the septic system and new residence. The property is located at 49 Sunswyck Road, located in the R-1 zone of Darien.

Existing Site Condition

The subject property is located on the west side of Sunswyck Road. The property has a total lot area of 2.5961 ± acres or 113,087 ± square feet. Currently access to this property is via paved driveway from Sunswyck Road. The existing house is located in the easterly portion of the property with a detached garage to the south and east of the main residence.

The property is bordered by residential properties on the west, north and south with Sunswyck Road to the east.

The property slopes from north to south from a ridge that bisects the property. There is a small area of manicured lawn in front of the house, behind the detached garage and to the south of the house. The remaining portion of the property consists of mature trees and scrub growth. There are outcroppings of ledge rock through the entire property.

The property was field checked for wetlands by Jay Fain & Associates, LLC, on January 9, 2020 and wetlands were found along the southwest property line and along the southeast property line. This portion of the wetlands extends into the property where a drainage pipe discharges into the wetlands. (Please see the report by Jay Fain & Associates, LLC in the Appendix.) The wetlands flags were field located by the project surveyor, William W. Seymour & Associates, P.C., and placed on the base survey map.

Project Description

The proposal for this site consists of razing the existing dwelling and constructing a new single family residence in the same general location as the existing dwelling. The existing detached garage and driveway will remain as is. Additional work associated with this project will be the installation of a new on-site subsurface sewage disposal system and a stormwater management system along with some grading associated with the septic system and razing of the existing house and the construction of the new dwelling. A new curb cut will be installed for the new driveway to access the proposed residence. The existing curb cut to the existing detached garage will remain.

Stormwater Management

Based on the existing topography the runoff from this site typically drains in a south westerly direction from a high point along Sunswyck Road towards the two areas of wetlands on and off site. In developing the pre-development hydrology we used a portion of the property as an undeveloped parcel of land and a portion developed with the existing detached garage and driveway. In developing the post-development hydrology for the proposal we used the proposed site development plan consisting of the proposed house, driveway, other impervious areas and lawn areas as well as the existing garage and driveway.

Developed Site Runoff Characteristics

Development of the site will include the construction of a new single family residence, a new driveway accessing the new house, a walkway leading to the new house, patio and lawn areas. Other work associated with the development of the proposed lot will be the installation of a stormwater management system and associated grading with the detention system. Regrading will be required for the septic system and the areas around the proposed house and driveway. The analysis that was conducted on this site was to compare the pre-development conditions which consist of an undeveloped portion of land and a portion developed with an existing detached garage and driveway and compare it to the post-development conditions which will consist of the proposed dwelling, the driveway, site grading and other impervious areas and lawn. The goal for the project is to manage the runoff so that post-development peak rate of runoff will be equal to or less than the pre-development peak rate of runoff.

It is proposed to collect runoff from the proposed residence roof area, the driveway and a portion of the lawn area and direct it to the detention area as indicated on the proposed site plan. Once runoff enters the detention area, the volume of storage below the invert of the outlet device will consist of the required water quality volume for the first inch of runoff from contributing impervious areas. The detention system will have a control release device that will meter out the runoff. The outflow from the detention system will be added to the remaining flow from the site so that the post development peak rate of runoff is equal to or less than the pre-development peak rate of runoff for all design storms. (Please see the chart below for a summary of our findings.)

The methodology used to determine the peak rate of runoff was TR-20 computer model by HydroCAD. The 2, 10, 25 and 50 year, 24-hour design storms were used for the analysis of this property. We calculated the runoff for the whole site to determine the peak rate of runoff from the site. We looked at the pre-development conditions and then compared it to the post-development conditions with and without detention.

Summary: Overall site

	2 Year Design Storm (CFS)	10 Year Design Storm (CFS)	25 Year Design Storm (CFS)	50 Year Design Storm (CFS)
Pre Development	3.84	7.46	9.01	10.57
Post Development	3.75	7.36	8.90	10.48

Based on our findings the post-development peak rate of runoff from the proposed site plan will be less than or equal to pre-development conditions for the 2, 10, 25 and 50-year design storms.

Site Utilities

On-Site Subsurface Sewage Disposal System

On 1/13/20 and 1/31/20 a series of deep test holes were excavated over portions of this site to determine the character of the soil profile, groundwater elevations, mottling, hardpan and ledge rock elevations to determine the feasibility of developing an on-site sewage disposal system for the proposed dwelling. Percolation tests were also conducted on the property within the area of the proposed leaching system. The locations of the soil tests appear on plans prepared by DiVesta Civil Engineering, LLC. Based on the soil, percolation and suitable land, the property can support an on-site subsurface sewage disposal system for 6 bedroom dwelling.

The property was checked for MLSS (Minimum Leaching System Spread) and we determined that the lot can meet the minimum spread requirement. MLSS calculations determined that the surrounding naturally occurring soils can adequately absorb, treat and disperse the expected volume of sewage effluent.

Adequate space was found for a primary leaching area.

The property is capable of supporting a disposal system which meets the requirements of Local and State Health Codes, as can be seen on the attached site plan.

Water

The proposed dwelling will be serviced by municipal water located in Sunswyck Road.

Sedimentation & Erosion Control Narrative

Reference is made to the Sedimentation and Erosion Control Plan drawing, which, along with this text is included in the report, part of the Sedimentation and Erosion Control Plan for this project. All erosion controls are to follow the 2002 CT Guideline for Soil Erosion and Sediment Control.

Sedimentation and erosion controls for the property will consist of silt fence and/or staked haybales placed on the down gradient side of all cut and fill areas and the installation of anti-tracking pads at the intersections of the driveway and the road. Sedimentation and erosion controls shown on the plan are specific to this property.

Schorr Residence

Appendix A:

Stormwater Management Operation and Maintenance Plan

DiVesta Civil Engineering, LLC

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Stormwater Management
Operation and Maintenance Plan
For
Schorr Residence
49 Sunswyck Road
Darien, Connecticut
February 22, 2021

The object of the stormwater management operation and maintenance plan is four fold; 1) is to collect the runoff from the proposed residence and driveway and convey the runoff into the detention system, 2) once the runoff has been collected and conveyed to the detention system where the flow will be metered out to control the runoff from the site, 3) the detention system will detain the runoff from impervious areas and control the increase in runoff, 4) the detention system will detain the water quality volume for the first inch of runoff from the proposed impervious area.

Maintenance Measures

1. Inspect the catch basin and junction box sump bi-annually. Remove any accumulation of sediment and leaves from the sump and dispose of the accumulated sediment properly.
2. Inspect annually the roof drains to ensure that they are clear and free of buildup debris and that there are no blockages and that the pipes are free flowing.
3. Removal of any accumulated sediment will ensure that the detention system will function properly.

Schorr Residence

Appendix B:

Hydrology Calculations

DiVesta Civil Engineering, LLC

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Appendix C:
Wetlands Soils Report

DiVesta Civil Engineering, LLC

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JAY FAIN & ASSOCIATES, LLC
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SOILS MAPPING & WETLAND/WATERCOURSE DELINEATION REPORT
49 SUNSWYK ROAD, DARIEN, CT 06820

PROPERTY LOCATION AND DESCRIPTION:

LAND USE: **Single Family Residential** ACRES: **2.0±**

ADDRESS: **49 Sunswyk Road**
Darien, CT 06820

REPORT COMPLETED FOR:

NAME: Palladian Builders
Joe Pagliarulo

MAILING ADDRESS: 6 Thorndale Circle
PO Box 17
Darien, CT 06820

WETLANDS/WATERCOURSE JURISDICTION

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) define inland wetlands as "land, including submerged land, which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Water courses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof."

MAPPING AND DELINEATION METHODOLOGY

Soils analysis, as described in this report, is intended as an inventory and evaluation of the existing soil characteristics on the subject property. A first order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993) was completed at the site. Soil units mapped in the field correspond with those in the USDA publication *Soil Survey of Fairfield County, Connecticut* (1981).

Wetland identification was based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g. a pond). These and other soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, numerous two-foot deep test pits and/or hand borings were completed throughout the site. Transects were located perpendicular to and at representative points along the perceived boundaries of the wetland areas identified on the property. Soil morphologies were observed at soil sampling points along the transects. Sampling began well outside the bounds of the wetland and continued towards it until inland wetland soils were observed. This point on each transect was marked (flagged) with an orange surveyor's tape labeled "Wetland Boundary". The complete boundary of every wetland area is located along the lines that connect these sequentially numbered boundary points.

Intermittent watercourses were delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation. Surveyor's tape, which was labeled "Wetland Boundary" and sequentially numbered, was placed at critical points to demarcate the boundary of each delineated watercourse.

The wetland and watercourse boundaries are subject to change until adopted by local or state regulatory agencies.

DATE AND CONDITIONS AT TIME OF INSPECTION

DATE: January 09, 2020 INSPECTED BY: Jay Fain

WEATHER: Cool, Sunny

SOIL MOISTURE CONDITIONS: ☐ DRY ☒ MOIST ☐ WET FROST DEPTH: N/A SNOW DEPTH: N/A

CERTIFICATION ______________________

WETLAND/WATERCOURSE IDENTIFIED

FLAG NUMBERS	WETLAND TYPE	SOIL TYPE	COMMENTS
1-23	Intermitent Watercourse	**Rn** - Ridgebury, Leicester, and Whitman extremely stony fine sand loams	Originates from Road Drainage
25-38	RMS - Red Maple Swamp	**Rn** - Ridgebury, Leicester, and Whitman extremely stony fine sand loams	-

SOIL MAP UNITS

Each soil map unit that was identified on the property represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of the map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) of each unit are provided. These are generally the primary characteristics to be considered in land use planning and management. A narrative that defines each characteristic and describes their land use implications follows the table. Complete descriptions of each soil map unit can be found in the *Soil Survey of Fairfield County, Connecticut* (1981).

UPLAND SOILS

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
CrC	Charleton-Hollis fine sandy loams, very rocky	Loose Glacial Till Loose Glacial Till	3-15	Well Drained Somewhat Excessively Drained	>6.0 >6.0	-- --	-- --	>60 10-20

WETLAND SOILS

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
Rn	Ridgebury Leicester Whitman Extremely stony fine sandy loam	Compact Glacial Till Loose Glacial Till Compact Glacial Till	0-8 0-3 0-3	Poorly Drained Poorly Drained Very Poorly Drained	0.0-1.5 0.0-1.5 0.0-0.5	Perched Apparent Perched	Nov-May Nov-May Sep-Jun	>60 >60 >60

SOIL CHARACTERISTICS: DEFINITIONS AND LAND USE IMPLICATIONS

PARENT MATERIAL: Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand and silt, which is commonly stratified, deposited by glacial melt water. Alluvium is material such as sand, silt or clay deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

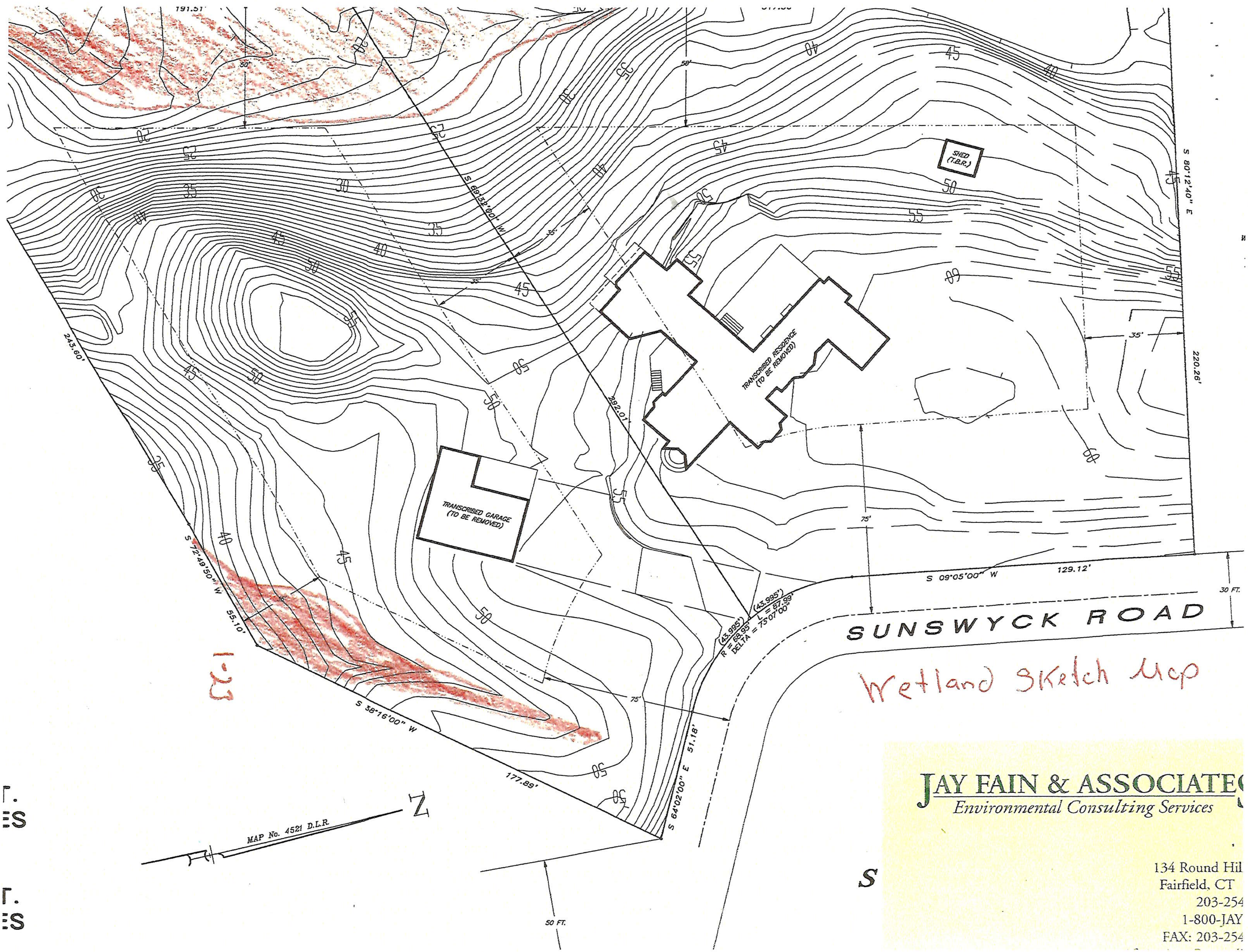
A soil's texture affects the ease of digging, filling and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction subbase material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

SLOPE: Generally soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

DRAINAGE CLASS: Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

HIGH WATER TABLE: High water table is the highest level of a saturated zone in the soil in most years. The water table can affect when shallow excavations can be made; the ease of the excavations, construction, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

DEPTH TO BEDROCK: The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.



JAY FAIN & ASSOCIATE
Environmental Consulting Services

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Soil Map—State of Connecticut
(49 Sunswyk Road, Darien, CT)

Map Scale: 1:1,260 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 19, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	0.9	14.9%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	0.5	7.7%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	4.6	77.4%
Totals for Area of Interest		**6.0**	**100.0%**

Appendix D:

Miscellaneous Calculations

DiVesta Civil Engineering, LLC

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Water Quality Volume (WQV) Calculations

Schorr Residence
49 Sunswyck Road
Darien, Connecticut
Dated: 02/22/21

Water Quality Volume Calculations

Water Quality Volume (WQV) = ((1") (R) (A)) / 12
Where:
A = total area in square feet
R = 0.05 + 0.009 (I)
I = percent impervious cover

Proposed Site Sub Catchment # 3: Available Storage = 461 @ elev. 46.20

A = 6,985 sf (portion of proposed roof area, portion of driveway & lawn)
I = 5,212/6,985 = 74.6%

R = 0.05 + 0.009 (74.6%)
R = 0.721

WQV = ((1") (R) (A)) / 12
WQV = ((1") (0.721) (6,985 sf)) / 12
WQV = 420 cu-ft (required)

Infiltration System Drawdown Calculations

Schorr Residence
49 Sunswyck Road
Darien, Connecticut
Dated: 02/22/21

Detention System
Source: Town of Greenwich Drainage Manual, Appendix B

The infiltration system will consist of plastic chamber surrounded with crushed stone.

Storage in Detention Basin # 1 – Subcatchment # 3:

$\text{Time}_{\text{drawdown}} = DV / (K)(A)$
Where:

DV = Design Volume	= 420 ft^3 (Refer to "WQV")
K = Infiltration Rate	= .09 in/hr (HSG D – Clay Loam – table B-2)
A = Bottom Area	= 1,278 sf

$\text{Time}_{\text{drawdown}} = (420\ ft^3) / [(.09\ in/hr) \times (1{,}278\ ft^2)] = \mathbf{3.65\ \ hr}$

The proposed infiltration system will drawdown within 72 hours.

<u>Groundwater Recharge Volume (GRV)</u>
<u>Calculations</u>

Schorr Residence
49 Sunswyck Road
Darien, Connecticut
Dated: 02/22/21

Groundwater Recharge Volume (GRV) – Sub Catchment Post #
Source: Connecticut Stormwater Quality Manual 2004, Appendix B

GRV = [(D)(A)(I)]/12

D = Depth of Runoff to be recharged (inches), Table 7-4
A = Site Area (ft^2)
I = Post Development site imperviousness (decimal) for new development or net increase in site imperviousness for re-development

GRV = [(.1 inch)(6,985 sf)(.721)]/12-in/ft) = 42 ft^3

<u>Groundwater Recharge Volume (GRV) = 42ft^3</u>

Total Storage Volume of the detention areas = 461 ft^3

Total Storage Volume, 461 ft^3 > Groundwater Recharge Volume, 42 ft^3

7.5.1 Groundwater Recharge Volume (GRV)

Description

The groundwater recharge criterion is intended to maintain pre-development annual groundwater recharge volumes by capturing and infiltrating stormwater runoff. The objective of the groundwater recharge criterion is to maintain water table levels, stream baseflow, and wetland moisture levels. Maintaining pre-development groundwater recharge conditions can also reduce the volume requirements dictated by the other sizing criteria (i.e., water quality, channel protection, and peak flow control) and the overall size and cost of stormwater treatment practices.

The groundwater recharge volume (GRV) is the post-development design recharge volume (i.e., on a storm event basis) required to minimize the loss of annual pre-development groundwater recharge. The GRV is determined as a function of annual pre-development recharge for site-specific soils or surficial materials, average annual rainfall volume, and amount of impervious cover on a site. Several approaches can be used to calculate the GRV:

- ***Hydrologic Soil Group Approach:*** *This method was first developed and adopted by the state of Massachusetts, and has since been implemented in several other states including Maryland and Vermont. This approach involves determining the average annual pre-development recharge volume at a site based on the existing site hydrologic soil groups (HSG) as defined by the United States Natural Resources Conservation Service (NRCS) County Soil Surveys (MADEP, 1997). Based on this approach, the GRV can be calculated as the depth of runoff to be recharged, multiplied by the area of impervious cover, as shown below:*

$$GRV = \frac{(D)(A)(I)}{12}$$

where:
GRV = groundwater recharge volume (ac-ft)
D = depth of runoff to be recharged (inches), see **Table 7-4**
A = site area (acres)
I = post-development site imperviousness (decimal, not percent) for new development projects or the net increase in site imperviousness for re-development projects

Table 7-4
Groundwater Recharge Depth

NRCS Hydrologic Soil Group	Average Annual Recharge	Groundwater Recharge Depth (D)
A	18 inches/year	0.4 inches
B	12 inches/year	0.25 inches
C	6 inches/year	0.10 inches
D	3 inches/year	0 inches (waived)

Source: MADEP, 1997.
NRCS – Natural Resources Conservation Service

Where more than one hydrologic soil group is present on a site, a composite or weighted recharge value should be calculated based upon the relative area of each soil group. The GRV should be infiltrated in the most permeable soil group available on the site.

- ***USGS Surficial Materials Approach:*** *This approach is similar to the above hydrologic soil group method, except the pre-development average annual recharge quantities and recharge depths are based on the predominant surficial materials classifications on the site (coarse-grained stratified drift versus glacial till and bedrock) as determined from U.S. Geological Survey (USGS) mapping. In areas underlain by coarse-grained stratified drift, average annual recharge is approximately three times greater than from till and bedrock areas. Areas of coarse-grained stratified drift and till/bedrock can be obtained from USGS 7.5-minute topographic maps of 1:24,000 scale, available from the USGS and DEP. Estimates of average annual recharge values for these materials are available from the Connecticut Water Resources Inventory Bulletins prepared jointly by the USGS and DEP for the major drainage basins throughout the state.*

Table B-1. Requirements for Determining Field Infiltration Rates

Infiltration Design Method	NRCS Hydrologic Soil Groups			
	A	B	C	D
Static Method	Soil Textural Analysis	Soil Textural Analysis	Saturated Hydraulic Conductivity Testing	Infiltration Not Allowed
Simple Dynamic Method	Soil Textural Analysis	Soil Textural Analysis	Saturated Hydraulic Conductivity Testing	Infiltration Not Allowed
Dynamic Field Method	Saturated Hydraulic Conductivity Testing	Saturated Hydraulic Conductivity Testing	Saturated Hydraulic Conductivity Testing	Infiltration Not Allowed

Table B-2. Default (Rawls) Infiltration Rates

Texture Class	NRCS Hydrologic Soil Group (HSG)	Infiltration Rate Inches/Hour
Sand	A	8.27
Loamy Sand	A	2.41
Sandy Loam	B	1.02
Loam	B	0.52
Silt Loam	C	0.27
Sandy Clay Loam	C	0.17
Clay Loam	D	0.09
Silty Clay Loam	D	0.06
Sandy Clay	D	0.05
Silty Clay	D	0.04
Clay	D	0.02

Source: Rawls, Brakensiek and Saxton, 1982.

- The slowest of the Hydrologic Soil Groups determined to exist at the point where infiltration is proposed shall be used.
  - *Example:* Two samples are taken at a proposed infiltration bioretention system in the actual soil layer where recharge is proposed. One sample indicates sandy soils. The second sample indicates a sandy loam soil. The default infiltration rate used for the design analysis must use the sandy loam rate and not the sandy soil rate. Soils must not be composited for purposes of the soil textural analysis.

- When the "Dynamic Field" method is used to size the infiltration system (regardless of Hydrologic Soil Group) or infiltration is proposed within Hydrologic Soil Group C soils